Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

Claims 1.-128.

1

2

The list of currently pending claims is presented below.

(Canceled)

- Claim 129. (Previously presented) A device comprising: 1 2 a first substrate having a surface; a second substrate having a surface, said first substrate and said second substrate being 3 aligned such that said surface of said first substrate opposes said surface of said 4 5 second substrate; a first organic layer attached to said surface of said first substrate, wherein said first 6 organic layer comprises a first recognition moiety; and 7 a mesogenic layer between said first substrate and said second substrate, said mesogenic 8 layer comprising a plurality of mesogenic compounds. 9 1 Claim 130. (Previously presented) The device according to claim 129, further comprising a
- 1 Claim 131. (Previously presented) The device according to claim 130, wherein said second organic layer comprises a second recognition moiety.

second organic layer attached to said second substrate.

- 1 Claim 132. (Previously presented) The device according to claim 130, wherein said first recognition moiety and said second recognition moiety are the same.
- 1 Claim 133. (Previously presented) The device according to claim 131, wherein said first recognition moiety and said second recognition moiety are different.
- Claim 134. (Previously presented) The device according to claim 129, wherein said organic layer comprises a member selected from the group consisting of organosulfur,

Appl: No. 10/044,899 Response dated January 31, 2006

Response to Office Communication mailed December 16, 2005

- organosilanes, amphiphilic molecules, cyclodextrins, polyols, fullerenes and biomolecules.
- Claim 135. (Previously presented) The device according to claim 130, wherein said first organic layer and said second organic layer are different.
- 1 Claim 136. (Previously presented) The device according to claim 130, wherein said first organic layer and said second organic layer are the same.
- Claim 137. (Previously presented) The device according to claim 129, wherein said organic layer comprises a member selected from the group consisting of:
- 3 $(RO)_3-Si-R^1-(X^1)_n$
- 4 wherein,
- 5 R is an alkyl group;
- R^1 is a linking group between silicon and X^1 ;
- X¹ is a member selected from the group consisting of reactive groups and protected reactive groups; and
- 9 n is a number between 1 and 50.
- 1 Claim 138. (Previously presented) The device according to claim 137, wherein R is a
 2 member selected from the group consisting of methyl and ethyl groups.
- 1 Claim 139. (Previously presented) The device according to claim 137, wherein R¹ is a
- 2 member selected from the group consisting of stable linking groups and cleaveable linking
- 3 groups.
- 1 Claim 140. (Previously presented) The device according to claim 139, wherein R¹ is a
- 2 member selected from the group consisting of alkyl, substituted alkyl, aryl, arylalkyl,
- 3 substituted aryl, substituted arylalkyl, saturated cyclic hydrocarbon, unsaturated cyclic
- 4 hydrocarbon, heteroaryl, heteroarylalkyl, substituted heteroaryl, substituted heteroarylalkyl,
- 5 heterocyclic, substituted heterocyclic and heterocyclicalkyl groups.

(Previously presented) The device according to claim 139, wherein R¹ comprises 1 Claim 141. 2 a moiety which is a member selected from group consisting of disulfide, ester, imide, 3 carbonate, nitrobenzyl phenacyl and benzoin groups. (Previously presented) The device according to claim 139, wherein R¹ is a 1 **Claim 142.** 2 member selected from the group consisting of alkyl and substituted alkyl groups. (Previously presented) The device according to claim 137, wherein X^1 is a **Claim 143.** 1 member selected from the group consisting of carboxylic acid, carboxylic acid derivatives, 2 hydroxyl, haloalkyl, dienophile, carbonyl, sulfonyl halide, thiol, amine, sulfhydryl, alkene 3 4 and epoxide groups. (Previously presented) A method for detecting an analyte, comprising: 1 **Claim 144.** 2 contacting with said analyte a recognition moiety for said analyte, wherein said contacting causes at least a portion of a plurality of mesogens proximate to said 3 recognition moiety to detectably switch from a first orientation to a second orientation 4 upon contacting said analyte with said recognition moiety; and 5 detecting said second orientation of said at least a portion of said plurality of mesogens, 6 whereby said analyte is detected. 7 (Previously presented) The method according to claim 144, wherein said analyte 1 Claim 145. 2 is a member selected from the group consisting of vapors, gases and liquids. (Previously presented) The method according to claim 145, wherein said vapor is 1 Claim 146. a member selected from the group consisting of vapors of a single compound and vapors 2 3 of a mixture of compounds. (Previously presented) The method of claim 145, wherein said gas is a member 1 **Claim 147.** 2 selected from the group consisting of a single gaseous compound and mixtures of gaseous 3 compounds.

- 1 Claim 148. (Previously presented) The method of claim 145, wherein said liquid is a member
- 2 selected from the group consisting of a single liquid compound, mixtures of liquid compounds,
- 3 solutions of solid compounds and solutions of gaseous compounds.
- 1 Claim 149. (Previously presented) The method according to claim 144, wherein said
- 2 recognition moiety comprises a member selected from the group consisting of metal ions,
- metal-binding ligands, metal-ligand complexes, nucleic acids, peptides, cyclodextrins, acids,
- 4 bases, antibodies, enzymes and combinations thereof.
- 1 Claim 150. (Previously presented) The method according to claim 144, wherein from about
- 2 10 to about 10⁸ mesogens undergo said switching for each molecule of analyte interacting with
- 3 said analyte.
- 1 Claim 151. (Previously presented) The method according to claim 144, wherein from about
- 2 10³ to about 10⁶ mesogens undergo said switching.
- 1 Claim 152. (Previously presented) The method according to claim 144, wherein said first
- 2 orientation is a member selected from the group consisting of uniform, twisted, isotropic and
- 3 nematic and said second orientation is a member selected from the group consisting of uniform,
- 4 twisted, isotropic and nematic, with the proviso that said first orientation and said second
- 5 orientation are different orientations.
- 1 Claim 153. (Previously presented) The method according to claim 152, wherein said
- 2 detecting is achieved by a method selected from the group consisting of visual observation,
- 3 microscopy, spectroscopic technique, electronic techniques and combinations thereof.
- 1 Claim 154. (Previously presented) The method according to claim 152, wherein said visual
- 2 observation detects a change in reflectance, transmission, absorbance, dispersion, diffraction,
- 3 polarization and combinations thereof, of light impinging on said plurality of mesogens.
- 1 Claim 155. (Previously presented) The method according to claim 153, wherein said
- 2 microscopy is a member selected from the group consisting of light microscopy, polarized light
- 3 microscopy, atomic force microscopy, scanning tunneling microscopy and combinations thereof.

- (Previously presented) The method according to claim 153, wherein said 1 Claim 156. spectroscopic technique is a member selected from the group consisting of infrared spectroscopy, 2 Raman spectroscopy, x-ray spectroscopy, visible light spectroscopy, ultraviolet spectroscopy and 3 combinations thereof. 4 (Previously presented) The method according to claim 153, wherein said 1 **Claim 157.** electronic technique is a member selected from the group consisting of surface plasmon 2 resonance, ellipsometry, impedometric methods and combinations thereof. 3 (Previously presented) A device comprising: 1 Claim 158. 2 a first substrate having a first surface; a second substrate having a second surface, said first substrate and said second substrate 3 being aligned such that said first surface opposes said first substrate opposes said 4 second surface of said second substrate; 5 a first organic layer attached to said first surface, wherein said first organic layer 6 comprises a first recognition moiety which is bound to said first organic layer, 7 interacts with said analyte, and is selected from a peptide, protein, enzyme, and 8 9 receptor; a mesogenic layer between said first substrate and said second substrate, said mesogenic 10 layer comprising a plurality of mesogenic compounds. 11 (Previously presented) The device according to claim 158, further comprising an Claim 159. 1 interior portion defined as the area between said first surface and said second surface, 2 wherein said interior portion allows communication between said analyte and said 3 4 recognition moiety. (Previously presented) The device according to claim 158, wherein said organic 1 Claim 160.
- Claim 161. (Previously presented) The device according to claim 158, wherein said recognition moiety further comprises a biomolecule comprising a member selected from a polysaccharide and a combination of a polysaccharide and a protein.

2

layer is a rubbed polymer.

l	Claim	162.	(Previously presented) The device according to claim 158, wherein said first
2		organ	ic layer comprises a self-assembled organosulfur or organosilane monolayer bound
3		to said	d first surface; and wherein said first recognition moiety is bound to said self-
4		assem	abled monolayer.
1	Claim	163.	(Previously presented) A device for detecting an interaction between an analyte
2		and a	first or second recognition moiety, said device comprising:
3		a first	substrate having a first surface;
4		a first	organic layer attached to said first surface, wherein said first organic layer
5		cc	omprises a first recognition moiety which is bound to said first organic layer,
6		in	teracts with said analyte, and is selected from a peptide, protein, enzyme, and
7		re	ceptor; and
8		a seco	and substrate having a second surface, said first substrate and said second substrate
9		be	eing aligned such that said first surface opposes said second surface;
10		a seco	and organic layer attached to said first surface, wherein said second organic layer
11		cc	omprises a second recognition moiety, bound to said first organic layer, which
12		in	teracts with said analyte, wherein said second recognition moiety is selected from
13		ar	amine, a carboxylic acid, a biomolecule, a drug moiety, a chelating agent, a crown
14		et	her, and a cyclodextrin; and
15		a mes	ogenic layer between said first substrate and said second substrate, said mesogenic
16		la	yer comprising a plurality of mesogens, wherein at least a portion of said plurality
17		of	mesogens undergo a detectable switch in orientation upon interaction between said
18		fi	rst recognition moiety and said analyte, whereby said analyte is detected.
1	Claim	164.	(Previously presented) The device according to claim 163, wherein said analyte
2		is a m	nember selected from the group consisting of acids, bases, avidin, organic ions,
3		inorga	anic ions, pharmaceuticals, herbicides, pesticides, agents of war, noxious gases,
4		biome	olecules and combinations thereof.
1	Claim	165.	(Previously presented) The device according to claim 163, wherein said
2		intera	ction is a member selected from the group consisting of covalent bonding, ionic

3	bonding, hydrogen bonding, van der Waals interactions, repulsive electronic interactions,
4	attractive electronic interactions, hydrophobic interactions, hydrophilic interactions and
5	combinations thereof.

- Claim 166. (Previously presented) The device according to claim 163, wherein said first organic layer comprises a self-assembled organosulfur or organosilane monolayer bound to said first surface; and wherein said first recognition moiety is bound to said self-assembled monolayer.
- Claim 167. (Previously presented) The device according to claim 163, wherein said second organic layer comprises a self-assembled organosulfur or organosilane monolayer bound to said second substrate; and wherein said second recognition moiety is bound to said self-assembled monolayer.
 - Claim 168. (Previously presented) A device for detecting an interaction between an analyte and a first or second recognition moiety, said device comprising:
- a first substrate having a first surface;

- a first organic layer attached to said first surface, wherein said first organic layer comprises a first recognition moiety which is bound to said first organic layer, interacts with said analyte, and is selected from a peptide, protein, enzyme, and receptor; and
 - a second substrate having a second surface, said first substrate and said second substrate being aligned such that said first surface opposes said second surface;
 - a second organic layer attached to said first surface, wherein said second organic layer comprises a second recognition moiety, bound to said first organic layer, which interacts with said analyte, wherein said second recognition moiety is selected from a peptide, protein, enzyme, and receptor; and
 - a mesogenic layer between said first substrate and said second substrate, said mesogenic layer comprising a plurality of mesogens, wherein at least a portion of said plurality of mesogens undergo a detectable switch in orientation upon interaction between said first recognition moiety and said analyte, whereby said analyte is detected.

1	Claim	169.	(Previously presented) The device according to claim 168, wherein said analyte
2		is a m	ember selected from the group consisting of acids, bases, avidin, organic ions,
3		inorga	nnic ions, pharmaceuticals, herbicides, pesticides, agents of war, noxious gases,
4		biomo	plecules and combinations thereof.
1	Claim	170.	(Previously presented) The device according to claim 168, wherein said
2			ction is a member selected from the group consisting of covalent bonding, ionic
3			ng, hydrogen bonding, van der Waals interactions, repulsive electronic interactions,
4			tive electronic interactions, hydrophobic interactions, hydrophilic interactions and
5			inations thereof.
	OI :	151	(Decimals asserted). The decimal according to alaim 169, wherein said first
1	Claim		(Previously presented) The device according to claim 168, wherein said first
2		_	ic layer comprises a self-assembled organosulfur or organosilane monolayer bound
3			d first surface; and wherein said first recognition moiety is bound to said self-
4		assem	abled monolayer.
1	Claim	172.	(Previously presented) The device according to claim 168, wherein said second
2		organ	ic layer comprises a self-assembled organosulfur or organosilane monolayer bound
. 3		to sai	d second substrate; and wherein said second recognition moiety is bound to said
4		self-a	ssembled monolayer.
1	Claim	173.	(Previously presented) A device for detecting an interaction between an analyte
2		and a	first or second recognition moiety, said device comprising:
3	•	a first	substrate having a first surface;
4		a first	organic layer attached to said first surface wherein said first organic layer
5		cc	omprises a first recognition moiety which is bound to said first organic layer and
6		in	teracts with said analyte; and
7		a seco	ond substrate having a second surface, said first substrate and said second substrate
8		be	eing aligned such that said first surface opposes said second surface;
9		a seco	ond organic layer attached to said first surface, wherein said second organic layer
10		co	omprises a second recognition moiety which is bound to said second organic layer
11		ar	nd interacts with said analyte; and

	\cdot
12	a mesogenic layer between said first substrate and said second substrate, said mesogenic
13	layer comprising a plurality of mesogens, wherein at least a portion of said plurality
14	of mesogens undergo a detectable switch in orientation upon interaction between said
15	first recognition moiety and said analyte, whereby said analyte is detected.
1	Claim 174. (Previously presented) The device according to claim 173, wherein said analyte
2	is a member selected from the group consisting of acids, bases, avidin, organic ions,
3	inorganic ions, pharmaceuticals, herbicides, pesticides, agents of war, noxious gases,
4	biomolecules and combinations thereof.
1	Claim 175. (Previously presented) The device according to claim 173, wherein said
2	interaction is a member selected from the group consisting of covalent bonding, ionic
3	bonding, hydrogen bonding, van der Waals interactions, repulsive electronic interactions,

combinations thereof.
 Claim 176. (Previously presented) The device according to claim 173, wherein said first
 organic layer comprises a self-assembled organosulfur or organosilane monolayer bound

to said first surface; and wherein said first recognition moiety is bound to said self-

attractive electronic interactions, hydrophobic interactions, hydrophilic interactions and

4 assembled monolayer.

4

3

- Claim 177. (Previously presented) The device according to claim 173, wherein said second organic layer comprises a self-assembled organosulfur or organosilane monolayer bound to said second substrate; and wherein said second recognition moiety is bound to said self-assembled monolayer.
- Claim 178. (Previously presented) The device according to claim 173, wherein said first organic layer comprises a self-assembled organosulfur or organosilane monolayer bound to said first surface; and wherein said first recognition moiety is bound to said self-assembled monolayer.

1	Claim 179.	(Previously presented) A device comprising:
2	a first	substrate having a surface, wherein said surface comprises a recognition moiety,
3		and said recognition moiety and said first substrate are joined through a member
4		selected from direct attachment and indirect attachment through a spacer arm;
5	a mes	ogenic layer oriented on said surface; and
6	an int	erface between said mesogenic layer and a member selected from the group
7		consisting of gases, liquids, solids and combinations thereof.
1 .	Claim 180.	(Previously presented) The device of claim 179, wherein said recognition moiety
2	and said first	substrate are joined through direct attachment, and said direct attachment is through
3	a member sel	ected from covalent bonding, ionic bonding, chemisorption, physisorption and
4 .	combinations	s thereof.
1	Claim 181.	(Previously presented) The device of claim 179, wherein said recognition moiety
2	and said first	substrate are joined through indirect attachment through a spacer arm, and wherein
3	said spacer a	rm comprises a member selected from the group consisting of poly(ethyleneglycol),
4	poly(propyle	neglycol), diamines, and surface-active agents.
1	Claim 182.	(Previously presented) A device comprising:
2	a first	substrate having a surface, wherein said surface comprises a recognition moiety,
3		and said recognition moiety and said first substrate are joined through a member
4		selected from direct attachment and indirect attachment through a spacer arm;
5	a seco	and substrate having a second surface, said first substrate and said second substrate
6		being aligned such that said first surface opposes said second surface;
7	a mes	ogenic layer oriented on said surface; and
8	an int	erface between said mesogenic layer and a member selected from the group
9		consisting of gases, liquids, solids and combinations thereof.
1	Claim 183.	(Previously presented) The device of claim 182, wherein said recognition moiety
2	and said first	substrate are joined through direct attachment, and said direct attachment is through
3	a member sel	ected from covalent bonding, ionic bonding, chemisorption, physisorption and
4	combinations	s thereof.

(Previously presented) The device of claim 182, wherein said recognition moiety 1 **Claim 184.** and said first substrate are joined through indirect attachment through a spacer arm, and wherein 2 said spacer arm comprises a member selected from the group consisting of poly(ethyleneglycol), 3 poly(propyleneglycol), diamines, and surface-active agents. 4 (Previously presented) A method for measuring the affinity of a recognition 1 Claim 185. moiety for an analyte of interest over a pre-bound analyte, said method comprising: 2 (a) contacting a first analyte with a recognition moiety for said first analyte, thus forming 3 a pre-bound analyte 4 wherein said contacting causes at least a portion of a plurality of mesogens proximate to 5 said recognition moiety to detectably switch from a first orientation to a second 6 orientation upon contacting said first analyte with said recognition moiety; 7 (b) detecting said second orientation of said at least a portion of said plurality of 8 9 mesogens; (c) contacting said analyte of interest with said recognition moiety, wherein said 10 contacting causes at least a portion of a plurality of mesogens proximate to said 11 recognition moiety to detectably switch from the second orientation to a third 12 orientation upon contacting said analyte of interest with said recognition moiety; 13 14 and (d) detecting the third orientation of said at least a portion of said plurality of mesogens, 15 whereby the affinity of the recognition moiety for the analyte of interest over the 16 pre-bound analyte is measured. 17 (Previously presented) A device for amplifying an interaction between a first 1 Claim 186. recognition moiety and an analyte of interest, said device comprising: 2 a first substrate having a surface; 3 a first organic layer attached to said surface of said first substrate; 4 wherein said first recognition moiety is capable of interacting with an analyte of interest 5 to form a first recognition moiety-analyte of interest complex; and 6

a mesogenic layer comprising a liquid crystalline material, wherein said mesogenic layer is in contact with said first recognition moiety, and the formation of said complex induces a rearrangement in a conformation of said mesogenic layer, and wherein said mesogenic layer amplifies said interaction.

- Claim 187. (Previously presented) The device of claim 186, wherein the first recognition
- 2 moiety is an antibody.

7

8

9

10

1

1

- 1 Claim 188. (Previously presented) The device of claim 186, wherein the analyte of interest is
- 2 selected from a biomolecule, chemical warfare agent, and noxious gas.
- 1 Claim 189. (Previously presented) The device of claim 186, wherein said rearrangement of
- said mesogenic layer produces an optical signal.
 - Claim 190. (Previously presented) A copper(II)-detecting device comprising:
- 2 a first substrate having a surface;
- a second substrate having a surface, said first substrate and said second substrate being aligned such that said surface of said first substrate opposes said surface of said second substrate;
- a first organic layer attached to said surface of said first substrate, wherein said first organic layer comprises a first recognition moiety; and
- a mesogenic layer comprising a plurality of mesogenic compounds comprising a structure according to Formula X:

$$R^{11}$$
 X^{11} R^{21}

10 (X)

11 wherein

12 X¹¹ is a member selected from a bond, Schiff bases, diazo compounds, azoxy 13 compounds, nitrones, alkenes, alkynes, and esters; 14 R¹¹ and R²¹ are members independently selected from substituted or unsubstituted
15 alkyl, substituted or unsubstituted heteroalkyl, substituted or unsubstituted
16 cycloalkyl, substituted or unsubstituted heterocycloalkyl, substituted or
17 unsubstituted aryl, substituted or unsubstituted heteroaryl, acyl, halogens,
18 hydroxy, cyano, amino, alkoxy, mercapto, thia, and aza;
19 wherein at least one of said R¹¹ and R²¹ is cyano.

Claim 191. (Previously presented) The copper(II)-detecting device of claim 190, wherein X¹¹ is a bond, R²¹ is pentyl, and R¹¹ is cyano.

Claim 192. (Previously presented) A sodium-detecting device comprising:

2 a first substrate having a surface;

1

3

4

5

6

7

8

9

10

14

15

16

17

a second substrate having a surface, said first substrate and said second substrate being aligned such that said surface of said first substrate opposes said surface of said second substrate;

a first organic layer attached to said surface of said first substrate, wherein said first organic layer comprises a first recognition moiety comprising a carboxylic acid moiety; and

a mesogenic layer comprising a plurality of mesogenic compounds comprising a structure according to Formula X:

$$R^{11}$$
 X^{11} R^{21} (X)

wherein

X¹¹ is a member consisting of a bond, Schiff bases, diazo compounds, azoxy

compounds, nitrones, alkenes, alkynes, and esters;

R¹¹ and R²¹ are members independently selected from substituted or unsubstituted alkyl, substituted or unsubstituted heteroalkyl, substituted or unsubstituted cycloalkyl, substituted or unsubstituted heterocycloalkyl, substituted or

(X)

Response to Office Communication mailed December 16, 2005

unsubstituted aryl, substituted or unsubstituted heteroaryl, acyl, halogens,
hydroxy, cyano, amino, alkoxy, mercapto, thia, and aza;
wherein at least one of said R¹¹ and R²¹ is a member selected from cyano,
hydroxy, alkoxy, alkylamine, amine, mercapto, and thia.

1 Claim 193. (Previously presented) The sodium-detecting device of claim 192, wherein X¹¹ is a member selected from a bond and an alkene.

Claim 194. (Previously presented) The sodium-detecting device of claim 192, wherein R¹¹ is cyano and R²¹ is methoxy.

Claim 195. (Previously presented) The sodium-detecting device of claim 192, wherein R¹¹ is cyano and R²¹ is pentyl.

Claim 196. (Previously presented) A hexylamine-detecting device comprising:

2 a first substrate having a surface;

1

3

4

5

6

7

8

9

10

11

a second substrate having a surface, said first substrate and said second substrate being aligned such that said surface of said first substrate opposes said surface of said second substrate;

a first organic layer attached to said surface of said first substrate, wherein said first organic layer comprises a first recognition moiety comprising a carboxylic acid moiety; and

a mesogenic layer comprising a plurality of mesogenic compounds comprising a structure according to Formula X:

$$R^{11}$$
 X^{11} R^{21}

12 wherein

13	X ¹¹ is a member consisting of a bond, Schiff bases, diazo compounds, azoxy	
14	compounds, nitrones, alkenes, alkynes, and esters;	
15	R ¹¹ and R ²¹ are members independently selected from substituted or unsubstitu	tec
16	alkyl, substituted or unsubstituted heteroalkyl, substituted or unsubstitu	tec
17	cycloalkyl, substituted or unsubstituted heterocycloalkyl, substituted or	
18	unsubstituted aryl, substituted or unsubstituted heteroaryl, acyl, halogen	ıs,
19	hydroxy, cyano, amino, alkoxy, mercapto, thia, and aza;	
20	wherein at least one of said R ¹¹ and R ²¹ is a member selected from cyan	10,
21	hydroxy, alkoxy, alkylamine, amine, mercapto, and thia.	
1	Claim 197. (Previously presented) The hexylamine-detecting device of claim 196, wherein	ı
2	X ¹¹ is a member selected from a bond and an alkene.	
1	Claim 198. (Previously presented) The hexylamine-detecting device of claim 196, wherein	1
2	R^{11} is cyano and R^{21} is methoxy.	
1	Claim 199. (Previously presented) The hexylamine-detecting device of claim 196, wherein	1
2	R ¹¹ is cyano and R ²¹ is pentyl.	
1	Claim 200. (Previously presented) A method of detecting an analyte, comprising:	
2	(a) interacting said analyte with a surface comprising a recognition moiety, thereby	
3	forming an analyte-recognition moiety complex, said surface comprising:	
4	(i) a substrate;	
- 5	(ii) an organic layer bound to said substrate; and	
6	(iii) said recognition moiety bound to said organic layer;	
7	(b) contacting said analyte-recognition moiety complex with a mesogenic layer, there	by
8	causing at least a portion of a plurality of mesogens proximate to said recognition	
9	moiety to detectably switch from a first orientation to a second orientation, and	
10	detecting said second orientation of said at least a portion of said plurality of mesogens, where	eby
11	said analyte is detected.	

1	Claim 201. (Previously presented) A method of detecting an analyte, comprising.
2	(a) interacting said analyte with a surface comprising said recognition moiety, said
3	surface comprising:
4	(i) a substrate;
5	(ii) an organic layer bound to said substrate; and
6	(iii) said recognition moiety bound to said organic layer;
7	(b) contacting said analyte with an organic mesogenic layer, thereby causing at least a
8	portion of a plurality of mesogens proximate to said recognition moiety to detectably
9	switch from a first orientation to a second orientation upon contacting said analyte
10	with said recognition moiety; and
. 11	detecting said second orientation of said at least a portion of said plurality of mesogens, whereb
12	said analyte is detected.
1	Claim 202. (Previously presented) A method for detecting an analyte, comprising:
2	interacting said analyte and a mesogenic layer, wherein said interacting causes at least a
3	portion of a plurality of mesogens to detectably switch from a first orientation to a
4	second orientation; and
5	detecting said second orientation of said at least a portion of said plurality of mesogens,
6.	whereby said analyte is detected.